

A M E N D E D C L A I M S

1. An electronic circuit in an embedded processing system covering a plurality of technical applications, the operative functions of which are performed with a respective plurality of application-specific Electronic Control Units (ECU), characterized by having
 - a) a plurality of controller means (30A,..30E) comprising each a respective one of said application-specific support functions and I/O subsystems, and
 - b) a plurality of standard processor units (40) having a standard I/O-interface operatively connecting to a respective controller means (30A,..30E) and supplying it with computing power,
 - c) wherein a processor unit (40) and a respective one of said controller means (30A, ..30E) are implemented on different chips.
2. The circuit according to claim 1, further having mapping means (70, 26) and a General Controller Unit (12) operatively coupled thereto for dynamically switching a processor unit (40) to a selected controller means (30A,..30E) under consideration of processor timing requirements.
3. The circuit according to the preceding claim having a primary layer (50) comprising basic configuration layout data (54) and a standard interface means (52) for connecting to said plurality of standard processors (40), and a secondary layer (60) comprising a preprogrammed, "autonomic-state" switching means (62), a preprogrammed emergency switching means (64) and a port interface means (66) connecting to said plurality of

March 17, 2005

- 15 -

application-specific I/O subsystems.

4. The circuit according to the preceding claim, further having an additional controller implementing a monitoring function (90,100) for the operational status of said plurality of standard processing units (40) and **controller means** (30A,...30E), and being operatively coupled to said General Controller Unit (12).
5. The circuit according to claim 1, further comprising a database storing instructions how to handle specific breakdown cases of error state cases associated with either of said standard processors.
6. The circuit according to claim 1, further comprising an emergency controller (110, 112) for continuously storing current global positioning system (GPS) coordinates and dedicated to send an emergency signal including said coordinates, in case one or more external sensor devices detect an emergency case.
7. An embedded system having an electronic circuit according to one of the preceding claims 1 to 6.